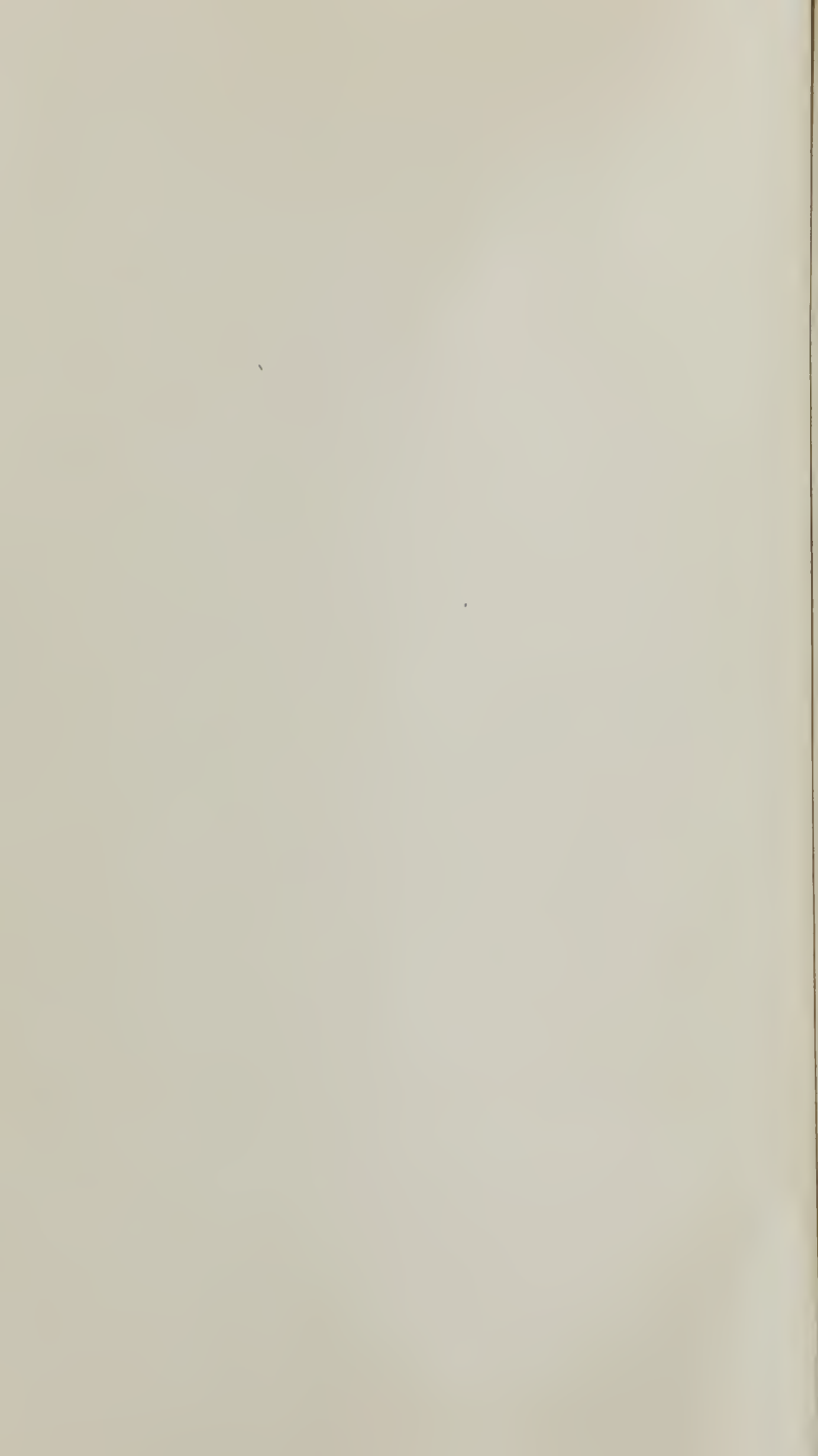


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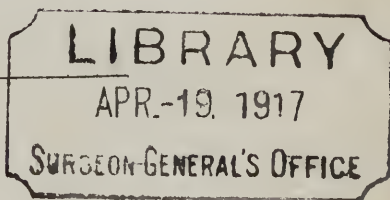


Founded 1836

U. S. Department of Health, Education, and Welfare
Public Health Service



TRANSACTIONS
OF THE
MEDICAL SOCIETY
OF THE
COUNTY OF CAYUGA,
FOR 1832.



Auburn:
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1832.

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SURGEON-GENERAL'S OFFICE

TRANSACTIONS, & c.

At the annual meeting of the Cayuga Medical Society, for 1832. it was Resolved, That a committee consisting of Drs. Mosher, Humphreys, Hurd, Morgan and H. Bennett, be appointed to receive the several Town Reports, and to draft from them, a Medico-Topographical report for the County of Cayuga—the Chairman of said Committee to report at the next quarterly meeting in November.

Resolved, That the several Town Committees report to Dr. Mosher, Chairman of said Committee, at Union Springs, on or before the 1st of October next.

Resolved, That the Secretary cause to be printed and sent to the respective Town Committees, each a copy of the Circular published by the Comitia Minora of the State Medical Society.

Resolved, That Drs. J. M. Wood, S. Willard and L. Briggs be appointed to prepare a memorial on the subject of Quackery.

The following officers were then chosen for the ensuing year, and delegate for the ensuing four years, viz:

Doct. IRA DOFY, *President*,
STEPHEN MOSHER, *Vice President*.
NOYES PALMER, *Secretary*,
CONSIDER KING, *Treasurer*.
LANSINGH BRIGGS, *Librarian*.
PHINEHAS HURD, *Delegate to St. Med. Soc.*
LANSINGH BRIGGS, Auburn,
JOSEPH M. WOOD, do
DENNISON R. PEARL, Genoa,
SYLVESTER WILLARD, Sennett,
DANIEL D. WAIT, Victory,

} *Censors.*

Resolved, That a Publishing Committee, consisting of Drs. I. H. Smith, E. Humphreys and J. G. Morgan, be appointed, whose duty it shall be to publish the important transactions of this Society, and such other matter as, to them, shall seem proper; which may be found in the archives of the Society. (A copy.) N. PALMER, *Secretary*.

In pursuance of the last Resolution of the Society, the Committee addressed a communication to the Secretary of the County Society, soliciting answers to interrogatories, having, for their aim in the answers given, all the prominent points in the history of the Society, from the time of its organization to the annual meeting in August, 1832.

The following has been received from the Secretary, in answer to our interrogatories, and is herewith published for the benefit of the members of the Society.

DEAR SIR,—In accordance with your request, I have critically examined the “Book of Records” of our Society, and find the following as the result of my investigations in relation to your inquiries:—

The Society was organized August 7th, 1806. The first President was Frederick Delano, who served until the 6th Nov. 1806, when he withdrew from the Society.

James McClung served in the same capacity from Nov. 6th, 1806, to Nov. 5th, 1807.

Barnabas Smith,	from 1807 to Nov. 4th, 1813.
Consider King,	from 1813 to Nov. 5th, 1818.
Frederick Delano,	from 1818 to Nov. 2d, 1820.
Joseph Cole,	from 1820 to Nov. 1st, 1821.
Frederick Delano,	from 1821 to Nov. 4th, 1824.
Consider King,	from 1824 to Aug. 2d, 1827.
Nathaniel Aspinwall,	from 1827 to Aug. 7th, 1828.
Phineas Hurd	from 1828 to Aug. 6th, 1829.
Campbell Waldo,	from 1829 to Aug. 4th, 1831.
Ira H. Smith,	from 1831 to Aug. 2d, 1832.
Ira Doty,	from 1832 to

There appears on record no requisition for the President to deliver an address, either inaugural or valedictory; nor for any member of the Society, previously to May 4th, 1820. But according to the first By-Laws of the Society, it was made obligatory on the part of the candidate student for membership, that he previously deliver a dissertation on some medical subject. You will accordingly find that the most of the dissertations delivered prior to that date (1820,) are from candidates.

On the 4th of May, 1820, the By-Laws were so amended that the President was required to address the Society at the close of his term of office; and there were also to be appointed, at each stated meeting, two members for the purpose of preparing dissertations for the following meetings.

The following are the Presidents and members who have complied with the said By-Laws, viz:

1807, Feb. 5,	Dr. L. Q. C. Fuller,	on <i>Typhus Febre.</i>
“ May 7,	Dr. Consider King,	on <i>Irritation Fever.</i>
1813, May 6,	Dr. Austin Delano,	on <i>Muriatic Acid.</i>
“ Aug. 5,	Dr. Jason Atwater,	on
1814, May 5,	Dr. Abel Geer,	on
“ Aug. 4,	Dr. Andrew Groom,	on
1818, Nov. 5,	Dr. David G. Perry,	on <i>Caloric.</i>
1819, Aug. 5,	Dr. E. D. Tuttle,	on <i>Calomel in certain diseases.</i>
“ Nov. 4,	President's Address,	F. Delano.
1820, Nov. 2,	Do.	do. do.
1822, Nov. 7,	Dr. Stephen Mosher,	on <i>Fever.</i>
1823, Nov. 6,	Dr. Jared Foot,	on <i>Blistering.</i>
1825, Aug. 4,	Dr. Campbell Waldo,	on <i>Dropsy.</i>
“ Nov. 3,	President's Address,	C. King.
1826, May 4,	Dr. Erastus Humphreys,	on
“ Nov. 2,	President's Address,	C. King.
1827, Aug. 2,	Do.	do. do.

“ “ Dr. J. G. Morgan, on

1828, Aug. 7, Dr. Noyes Palmer, on *Subacute, & Chronic Bronchites*.

1829, May 7, Dr. Charles Van Epps, on

1830, May 6, Dr. Hiram Bennett, on *Iodine*.

“ Nov. 5, Dr. Samuel Gilmor, on

1831, Aug. 4, *President's Address*, Dr. Campbell Waldo, on *The Treatment of Inflammation of large joints by cold applications*.

1832, Feb. 2, Dr. Erastus Humphreys, on *Indian Cholera*.

“ Aug. 2, *President's Address*, I. H. Smith, on *The pains, pleasures, &c. of the Medical Practitioner*.

All the papers which are in my possession of any value to you, I herewith send also. Enclosed are such minutes of the late annual meeting as will be of service to you. Very respectfully, yours,

N. PALMER.

Cayuga, 17th Aug. 1832.

ART. I. President's Address, (for 1832,) on *the Pains, the Pleasures and the Responsibilities of the Medical Profession, and also its Value and Importance to the Human Family*. By I. H. SMITH, of Auburn.

GENTLEMEN OF THE MEDICAL SOCIETY,

I need not say that I am diffident of an ability to interest, nor, that my aim and exertion are both in requisition to serve you. Any man must be a stoic, or much inflated with self-complacency, when called to act on an occasion like the one on which we are now assembled, not to *feel* most sensibly.—And *here* I would suggest the propriety of a successive, annual change of the individual who should be honoured with the distinction, and on whom should devolve the duty of addressing this Society, at its returning anniversary. In this way, talent would be elicited,—the varied display of subjects obtained, and that lively interest excited, which tends to the ultimate growth and elevation of all literary associations. And, moreover, would it not tend, also, to do away the cause of many party jealousies—stimulate to one common absorbing interest, and prompt alike to industry, and that emulation alone, which seeks distinction, at the shrine of merit? Individuals of equal claim, and yet possessing that variety of thought, attainment and views which necessarily exist in every community, would, not only have opportunity, but in turn, feel under equally increasing obligation to contribute in aid of the *same* object.

Under these considerations, therefore, you will please to extend your wonted charity, and permit me to offer a few thoughts, (believing as I do that they are not irrelevant to our present purpose,) on the pains, the pleasures and the responsibilities of the medical profession: and also, its value or importance to the human family.

Nothing more true, or more within the repeated experience of every practitioner of medicine, than, that mortifications, repulses and disquietudes of a most bitter character, are among the evils against which he has to contend. Who, among the best of the fraternity, and located in as good, as intelligent, and as opulent a community as our country affords. but

has been compelled to brook the insults of some wonder-working, obtrusive prescribers? Who but, after days and nights of laborious attention, watching in almost breathless anxiety for the kind moment that should announce a ray of distant hope; and even when that moment had arrived: Who the physician, but has been driven to the necessity of yielding his patient into the hands of an empiric, under the distrust and anathemas of deluded friends, tamely to witness the increasing influence of the magic spell-worker, to his own disgrace, and (in humbled pride,) the disgrace of the medical profession? And this too, accompanied with the most unhallowed reflections, apprehensions, and reproach; declaring that the course pursued had been wrong—that every effort had been worse than wrong—had been poison, superadded to the herculean disease, which had so long held the victim in his tiger grapple. Who, but after having expended time, money and the most unceasing mental exertion of which he was capable? Who, but has had the mortification to be charged with unfaithfulness—wanton neglect—rashness—ignorance, or, all together? And, what is still more painful, who is there, even among the most respectable for talent, for prudence, for promptness and a correct administration of medicine; having struggled with fatigue and great responsibility: and when, to his understanding, aided by the lights of science and much experience in the healing art, could perceive that the disease was losing its power, and in prospect soon to be overcome: again returns the inquiry; who is the physician, that has not, at this trying moment, been shocked—confounded!—and in shameless abuse, disgraced, by the introduction into the room of the patient, some paragon of idiocy: a mere blight and stench of death, viz: the steam doctor—the Indian doctor—the knowing doctor—into whose hands the patient is to be committed, frightfully to meet his consequent destiny. Nor is he disappointed. The event verifies the predictions of science, prudence, experience and sound philosophy:—they all unite and exclaim—death! inevitable death, as the necessary consequence of distrust and ill-advised temerity.

These are among the sources, or certain attendants of a medical practitioner's life, that cause him pain; cause him many times, almost to doubt the existence of gratitude, or even that pittance of moral sensibility, which distinguishes man from the lower grade of animal creation.—The physician has not only to encounter the fatigues, the anxieties and responsibilities which are not the ordinary incidents of most other avocations, but he is imperiously doomed to witness the unrelenting march of the meagre king; bidding defiance alike to kindred sympathy, the pride of nature and the healing art. These are but too often the necessary accompaniments of the career of the medical man. The bitter cup is thus frequently presented, while all that science, knowledge and the experience of ages can plead in bar; the tender is maintained: none are permitted to escape the offer: none so fortunate, as never to taste. The votary of medicine has also to forego much of pleasurable relaxation from the pursuits of business—much of the luxury of domestic retirement, allotted to the man of wealth; while other callings and other business admit of multiplied pastimes, with days of rest and social interchange. But the physician has neither days nor *nights* in quiet fee. He is constantly held in requisition to march to the abode of anguish; there to breast himself to

the groans of the sick and the dying; there to witness the frailty and end of the creation of God. These, my friends are painful realities; painful to all states and conditions of men; the sage philosopher and the "whistling boy," substituting imaginary for real woes that surely await him.

But, my friends, are there not many pleasures; much happiness in store for the medical man? May he not, in common with the better part of society, acknowledge his full share of the pleasures of reflection and conscious bliss?

So long as sympathy, the cause of humanity, or "the power to feel another's woe" shall continue to have a place in the breast of man, so long will the physician meet their successive moral admonitions, and thereby become convert to the holy principles of benevolence. I think it true, that no avocation, no condition of life, will sooner touch the heart, expand the soul, or dissipate the charms of the miser's god. And what the effect? When a passion for gold, shall give place to the touch of misery? When love of fame shall be associated with rags? Nay, more, when virtue shall appear in her appropriate habiliment, what will be the effect on the heart and the understanding? It will be kindness—charity—with an ardent desire to contribute in aid of reviving hope, and peace, and joy.

At the very outset, the physician is called to mingle in society of every grade of intelligence—the learned circle—the refined and interesting—in mansions where fullness and comfort dwell. Nor is he permitted to pass by the den of filth and disgust, filled with beings, hardly bearing that seemingly image bestowed on man at his creation. He is also called to visit the hut, where peace, and penury, and virtue reside—where honest industry supplies but a bare subsistence, and the only luxury allotted the abode, the *luxury* of reciprocal interchange of innocence, the hand of succour, and the overflowings of a grateful heart.

These constitute the physician's school—here he may—*must* learn lessons that will ever tell on the page of moral history, truths of golden worth—truths enduring as moral right and the dignity of man. These are pleasures substantial. In them may be found rich funds for intellectual enjoyment: they are ever at command, and always indispensable to self-approving moments, and thereby to constitute the life of man, a glowing hope—a joyous day:—a rich boon to the heart already expanded with grateful emotion toward the Author of all good.

If any be favored with the opportunity to study man in the abstract—of knowing him in the more complicate, and various social relations; is it not the physician? If any man has interest to prompt, or motive to urge to a just estimate of moral principle, and moral influence; is it not the physician? It is the physician,—because his interest, his duty and his pleasure are but the necessary result of his daily calling. Then, as the exercise of benevolence is happiness to him who is the author or recipient, so is the physician that happy individual. In addition to the above, must follow in the train of the medical man, the high-wrought satisfaction of having averted the ravages of dire pestilence—of arresting many, and perhaps, many thousands of his fellow beings from the grasp of the king of terrors. Does not this swell the heart in joyous gratitude? Is not the Divinity in man richly portrayed in the fact that pain, and sickness, and

death have been stayed, relieved and averted from the couch of suffering humanity? This the physician's boon—this his meed of pleasure.

We come now to reflect a few moments on the responsibilities of the medical profession. And here let me remark, that by responsibility, I do not mean a legal, life insurance, nor a pecuniary remittance in case of damages sustained by an aggrieved party; but I do mean, that the physician is amenable to the rules of civil society—to the dictates of his own better judgment, and the character, standing and welfare of the profession at large.

Well-regulated public opinion is law,—or rather, it is most usually in harmonious accordance with correct principle, and consequently in all the various pursuits and business of life, a legitimate rule of action. To oppose it, is to hazard reputation, and a prospect for usefulness—to live in the midst of dark distrust, subject always to an arraignment of motive, a misconstruction of any act that might seem praiseworthy, or bear the impress of true benevolence.

Hence, we argue that he is not only amenable *to*, but highly responsible *for* public opinion. It is much within his power, as it is his duty, to give it direction and cast; and to determine its effect upon the surrounding country, where he may chance to reside.

The great and the good physician, is a man of sense—a man of knowledge; possessed of much sensibility, and a signal ornament to the kingdom of nature. As the accredited guardian of health—as the welcome friend of those in distress, he may be ever useful—useful to friends, neighbours and the family of man. If on the alert, attending to the duties of his profession—making appropriate researches and experiments upon the various causes of disease and death, how much the physician—how mainly competent is he to point him, who has already felt the sting of poison, to the healing balm—to restoration and hope in the bosom of friends?

What would be thought—what would be said of the physician, possessing the ability of arresting the approach of disease—of saving the life of a fellow being, who should neglect or refuse his aid? (On the converse,—what would not be thought and felt and proclaimed in the ardour of devotion of him who should, in the disinterestedness of friendship, with care and skill, render the opportune service, and save the life of a much valued member of society?

If this is the condition—this the employment of the medical practitioner, how awfully responsible—how vitally important are the duties and the place, of the medical man!

It is then, a responsibility of great moment—requiring all the sagacity, prudence, energy and wisdom which fall to the lot of mortals. As the number, variety and importance of his duties shall be multiplied—as the sphere of his usefulness shall be extended—so will his responsibilities increase in number—grow in magnitude, and swell the amount of accountability to himself—his fellow man, and his Creator.

It remains in conclusion, to say something of the importance of the medical profession.

In primeval days—days better known as free from luxury and idleness than those in which *we* live, and of course, less exposed to pain, and sickness and death; little was known of the nature of disease, and but

little required of the man of drugs. As diseases were few and simple in character, so their cure, whether by the efforts of nature, or the intervention of art, was easily effected. Perhaps, it is not improbable that the fact of diseases being mild and simple in character, and so generally yielding to the ordinary efforts of nature, I say, it is quite probable that this fact gave rise to many of the superstitions, divinations and other ridiculous fooleries that were practised more or less, during the early days of medicine. But, even during this period, the physician justly maintained a prominent place in the knowledge of the day: giving tone and character to the buddings of science, and such arts as were known at the time—Indeed, either science or accident had rightly informed, or thrown in *their* way, some of the most important chemical results; such as the signal art of embalming, for, in this way, were some of the ancient patriarchs preserved from the waste of dissolving time. At any rate; the claim is well sustained, that at every stage, and all ages of the world, physicians have been pioneers in the science of nature, and liberal in contribution to such sums of knowledge as marked the different periods. Nor have their research and subjects of investigation, either in theory, or a practical point of view; been at all limited:—They have at the same time, shone in war, and the healing art; and even Hercules himself, thought it necessary to finish the hero, that he too, should be instructed in the art of medicine.

But gentlemen—It remained for Hippocrates, who lived (according to accounts heretofore transmitted,) four hundred years before the Christian era: it remained for him I say, to redeem the science, or rather, to raise it from the fogs of chimerical superstition, which had been engendered and propagated by the Egyptian priests: combining in the same code, medicine, religion and civil policy: and *they* to have an exclusive supervision, and control of the whole.

But, now, meek philosophy asserts her claim: the science of nature gradually unfolds to man his right—his dignity—and breaks the mystic chain which has so long, and so much, enslaved the human mind.

Reason now ascends her empire, and proclaims her intended march:—She boldly throws the mask, and hails the approaching day; a day commemorative of good to the human race.

From this time, the science of medicine has been studied with avidity; its march has been triumphant—its elevation commanding; and its results at different periods, the light of nature in de brilliant and useful, to the health and moral condition of the world of mankind.

History proceeds, and awards to Erasistratus, the high praise of detecting the indications of the pulse—to Harvey; the never fading laurel, of discovering the circulation of the blood: and to the immortal Boerhaave, that of arranging systematically, and founding a theory for practice, in accordance with the most improved science of the day.

Following in the train of this splendid galaxy, were Hoffman—Fothergill, Stahl, Sydenham, Davy, Cullen, Brown, Darwin, and many others; who with some deviations and improvements, did much to enrich the world, and render permanent, the worth and dignity, of the science of medicine.

In later times—times more familiar to us all; may be found enrolled on this list of worthies, (and whose fame will be perpetuated till the death of time,) such names as Rush—Bell—Good—Physic—Abercrombie—

Gregory—Mitchell—Dewees—Mc Naughton—Beck,—and numerous others : whose works of professional science, the arts and the whole circle of useful literature ; will ever stand as monumental evidences, of the intrinsic value and importance, of the medical profession.

Then Gentlemen—If at all ages of the world, the science of medicine has been thus estimated, and its votaries thus useful to their fellow men, let me repeat—that to the honour of our profession it may justly be recorded; that the arts, science and literature,—natural and moral philosophy, the cabinet and the field, the cause of humanity ; have all received the fostering care : and an able defence at the physician's hand.

ART. II. *Dissertation on Indian Cholera, delivered at the Quarterly Meeting of the Society, Feb. 1832. By Dr. E. HUMPHREYS, of Auburn.*

MR. PRESIDENT :—In obedience to the call of the Society, and in accordance with my own inclination, I propose to address the Society upon a subject ; though it may not be altogether new, its importance is, nevertheless, greatly enhanced, in view of its wide spreading mortality, its rapid extension, and the increasing probability, that the epidemic of which I speak, may yet appear on our own shores.—Perhaps it may be thought arrogant in me to attempt a dissertation upon a disease, reputed to be new, and known in this country only through the publications of the day.

But I cannot resist the conviction, that naturally arises in my mind, after perusing the different descriptions of the disease by the best English writers in India ;—and the different reports of the medical establishments at Madras and Bombay, that this is not the '*nova pestis*,' but an *old enemy*, in a *new* disguise ;—has commenced a new campaign, but altered his mode of attack.

Whether this conviction be well founded remains to be decided :—I shall attempt to show, in the discussion of this article, that there is, at least, a distant relationship, between the great eastern epidemic, and epidemics that have prevailed in our own country.

The great Indian epidemic appears not to be a disease of modern origin, according to the best medical authority. Dr. Taylor has furnished the Madras Medical Board with an account of the disease, from a Sanscrit medical work—the *Madhow Nidan*, which clearly proves that the disease has been long known to the natives of India.

Sydenham, in his description of the epidemic of 1671, '5 and '6, has described the disease of Cholera, with great exactness :—and Dr. Girdlestone and Mr. Curtis have described the disease as it raged in the peninsula of India in 1782. It appears to have been the endemic of India, from the earliest period of their medical history.

Bontius and Thevenot have also described it as the endemic of India, Mauritania and Arabia, and mention its having been noticed by several Greek physicians, and even Celsus. Sonerat, whose travels embrace the period between 1774 and 1781, speaks of a disease, on the Coromandel coast, resembling in all respects the Cholera.

He mentions it as a disease, or an epidemic which *reigns* ; and states, that in one visitation of the disease, above sixty thousand people perished from Cherrygam to Pondicherry.

It is occasionally endemic, in the West India Islands, and also on the coast of Brazil, according to the accounts of Drs. Sheppard and Whiting; and sporadic in this and other countries. As I think it will be admitted, that our sporadic Cholera does not differ in its essential symptoms from the great eastern epidemic; excepting in grade:—and the important fact, that one is epidemic and produced by epidemic causes, and the other is not.

It is to Mr. Curtis and Dr. James Johnson, that the public are chiefly indebted for the earliest and most authentic history of the epidemic cholera, that has, for the last twenty years, devastated the eastern world, and which has, of late, found its way through western Asia, and Persia:—and is now spreading terror and death over a large portion of the European continent; and even into Africa.

Mr. Curtis published his account of the disease, 1807, while in India. He regarded it as a new disease; and finding no name for it in the nosological classifications; proposed from its leading features, or symptoms, Cholera Spasmodica. It appeared epidemically in Jessore in 1817, and from that period until its entrance into Astrachan in 1823, form an interesting period in its history.

Jessore is about one hundred miles northeast of Calcutta: it appeared in Jessore in August, and spreading from village to village, it reached Calcutta early in September; having destroyed thousands in its course. From Calcutta, it extended to Behar, depopulating many large cities; and compelling the inhabitants to flee for safety, to other places.

A number of other cities suffered in succession; the pestilence not diffusing itself at once, but travelling by a chain of posts; and attacking a second district, after having ravaged the first. At length, it reached the grand army, and spread through its different divisions at Mendullah, Hasingabad and Saugur, marching in terrible array over the Decan.

At Hasingabad, its havoc was dreadful for several days; when, taking a course along the banks of the Nurbuddah, it alighted at Tannak. It then visited the famous cities of Arungabad, and Ahmadnugger; and spread in the direction of the coast, crossed the Salsette, and arrived at Bombay in September, 1818, twelve months after its appearance at Calcutta. While this was passing in the West of the peninsula; the epidemic was making a like progress in the east and south; progressively extending over the Coromandel coast: from whence it spread to Ceylon, to the pure air and temperate climate of Siam, to Malacca, and across the straits of Sunday to China—since which it has reached the Mauritius, and made its appearance on board of vessels, both in the harbour, and at sea.

Its progress through Persia, and its appearance in Europe, are no less interesting.

It reached Astrachan in 1823—subsequent to that period, it had pursued its ravages in India, and towards the close of 1826, after desolating several cities in Mongolia, it reached the frontiers of Siberia; where it was checked for a time by the prevalence of north winds during the month of February.

In Persia, it appeared and disappeared at different times; and as often subsided on the setting in of cold weather, as had been the case before.

In the summer of 1830 it broke out in the provinces of Magandaran, and Shirvan, upon the southern shore of the Caspian Sea. From whence it passed through the town of Taurus, five thousand of whose inhabitants fell victims to its fury:—and crossing the Russian frontier, it rapidly advanced towards the interior.

In two provinces about five thousand persons were seized with it, of whom, more than one third perished. On the 8th of August it entered Tiflis; the population was soon reduced from thirty to eight thousand by death and emigration, to avoid the distemper.

By the first of July, 1850, it had again reached Astrachan; and, in twelve days, 1229 individuals were attacked, more than a third of whom perished.

In Feb. 1830 it visited the village of Messina—the number attacked by the disease amounted to 3590, of whom 865 died. In penetrating the Russian Empire, it followed the course of the Volga; which spreads its waters over the most fertile provinces of the Empire. It made its appearance at Moscow on the 27th of September, 1830, and by the 26th of November, by the official statements, the number sick was 1066: and on that day 244 new cases were added to the sick list. On the 27th of November, by the official statements, the total number affected by the disease, up to that period, was 6531, of whom 3508 had died.

A subsequent account from Dr. Loder, Physician to the Emperor of Russia: the entire number of cases which had occurred in Moscow up to February, 1831—was 8130, of whom 4385 had perished. By the first of January, the disease had declined in the Capital, while it still continued to prevail among the troops, destined to the reduction of Poland, and over various extensive provinces of the Empire.

From Dantzic to Odessy, and from Odessy to the White Sea; the principal towns and villages have experienced its ravages.

It appeared at St. Petersburg on the 26th of June, and by the 11th of July, 3076 were attacked, and 1311 had died. At Archangel, out of 1200 cases, there had been 800 deaths. Of the mortality at Warsaw and Riga, we possess no accurate information.

During the past year, Alexandria and Grand Cairo in Egypt have been visited by the disease, but its mortality in these places has been variously stated.

The Rev. Mr. Cruse, of the Church Missionary Society at Cairo, gives an appalling statement of its ravages in that city; the population of which is computed at 300,000: in the early stages of its operation, the number of deaths amounted to 1500 daily—but up to the 18th of September it had so far declined, that the number of deaths amounted to no more than fifty per day.

In Hungary, if the accounts are to be relied upon, its effects have been deplorable; 2962 towns and villages have been visited; according to the latest accounts in that kingdom. The total number of cases up to the 18th of October, was 335 734, and the number of deaths 151,174.

In England, where the Cholera has been making progress for the last few months; the total number of cases up to the 25th of February, 1832, is 5460, deaths 1609.

In Jessore, where it is believed the malady commenced; 10,000 persons died in two months. In the district of Nuddea, containing a population of 1,300,000, the Cholera destroyed 16,500. In the district of Bargulpore, 16,561 fell victims to the disease: scarce one in a hundred that was attacked in this visitation, that escaped death.

According to information collected within the Madras Presidency, the annual mortality may be estimated for each annual irruption of the Cholera in the peninsula of India, to 20 per cent. of the military forces, and 6 per cent. of the general population:—or in other terms, it is for the troops one in five, and for the inhabitants generally one in sixteen. The population of the British possessions in India, according to official evaluations, amount to 40,000,000, without comprising recently conquered country. This enumeration, which is considered a minimum, will yield in Indostan an annual mortality produced by Cholera, of *two and a half millions of people*. If we reduce the preceding estimate one half, allowing for intermittances of the malady, yet the ravages of the scourge over the regions of Indostan during the last fourteen years, will form a loss of *eighteen millions* of persons. What must then have been the extent of its murderous effects, when we comprise its destructive course, over so many other regions of insular and continental Asia? The kingdom of Siam lost, in 1820, in the single city of Bunkuk, the capital, 40,000 persons:—and there perished in the island of Java, 102,000 inhabitants, of whom 17,000 belonged to the city of Batavia.

At Pekin, the capital of China, the people having exhausted the whole means of sepulchre, the burial of the multitude of dead, was provided for from the imperial treasury.

In the Isle of France, the loss in 1810 was, according to official documents, 7,000, but 20,000, according to information of private individuals. At Lahore, in 1827, of the inhabitants of the valley, 30 000 were carried off by the epidemic. In Western Asia and Arabia, the reports are but imperfect:—yet the accounts of its ravages are frightful and appalling. It appeared in Muscat in July, 1821, and according to accounts, 10,000 fell in that city. At Bassora on, and near the mouth of the Euphrates; there perished in eleven days more than 15,000 persons of an entire population of 60,000; and the number of the dead had been carried by some accounts to 18,000. In Bagdad, according to accounts from Dr. Mercnies, one third of the entire population fell by the disease within a month, while it raged there.

In the provinces of the Russian Empire, the number attacked according to the latest accounts, is 54,557:—and the number of deaths 31,236. In Caucassus out of 16,000 persons attacked, 10,000 are said to have perished. At Tifflis, three fourths of those attacked fell, and two thirds at Astrachan, and in the province of Caucassus. I might go farther in detailing the history of the ravages of this frightful epidemic, but it would necessarily extend to an unreasonable length, an article originally intended to be brief. The mortality of this epidemic has not always been equally great; its prevalence has been less extensive and its mortality less general in those places that are situated at the greatest altitude.

Its aliment is found in the great maritime cities; upon navigable rivers, canals, and the greatest thorough-fares of nations.

SYMPTOMS.—'This formidable disease, according to Asiatic writers, does not appear to be attended by any premonitory symptoms that can be regarded as peculiar to it. But, as it has appeared in Europe, it has been attended by premonitory symptoms; a knowledge of which appears to be all-important to a successful treatment of Cholera:—the most usual of which are, a sensation of uneasiness, either with, or without pain in the pit of the stomach, the want or loss of appetite; a great heaviness in the lower part of the abdomen, with a disposition to diarrhœa, or a diarrhœa partly developed, and which may precede the attack for some time; afterwards some nausea, and sometimes slight vomiting; weakness in the limbs, head-ach, alternate shivering, and slight heat.

These symptoms are not always united; sometimes one, and sometimes others predominate. During its prevalence all are more or less affected: they last several days, disappear, and return; and often have no other effect.

They must be regarded as an imperfect development of the disease, and what constitutes its first stage.

The second stage is ushered in by the following symptoms: usually in the night, or towards morning, the patient is sick at stomach, which is succeeded by vomiting its contents; at the same time the bowels are at once completely evacuated; the entire intestinal tube seems to be at once emptied of its fecal or solid contents, and an indescribable, but most subduing sense of exhaustion, sinking and emptiness is produced. Fainting supervenes, the skin becomes cold, with giddiness, and ringing in the ears. The powers of loco-motion are generally soon arrested; spasmodic contractions, or twitchings of the muscles of the fingers and toes are felt, and these affections are gradually extended along the limbs, to the trunk of the body.

The pulse is from the beginning small, weak, and accelerated; and after a certain interval, but especially on the accession of spasm, or violent vomiting, it suddenly sinks, so as to be lost in all the external parts.

The skin, which from the commencement of the disease, is below the natural temperature, becomes colder, and colder; it is rarely dry, generally covered with a profuse cold sweat, or with a clammy moisture.

It often assumes a livid hue; and the whole surface appears collapsed: the lips become blue, the nails present a similar tint; and the skin of the feet and hands become much corrugated, and exhibit a sodden appearance.

In this state the skin is insensible, even to chemical agents; yet the patients generally complain of oppressive heat on the surface, and wish to throw off the bed-clothes.

The eyes are sunk in the orbits, which are surrounded with a livid circle; the cornea becomes flaccid, the conjunctiva is frequently suffused with blood; the features of the face collapse, and the whole countenance assumes a cadaverous aspect, strikingly characteristic of the disease.—There is almost always urgent thirst, and a desire for cold drinks, although the mouth be not usually parched. The tongue is moist, whitish, or cold. A distressing sense of pain, and of burning heat at the epigastri-

um are common. Little or no urine, bile, or saliva are secreted. The voice becomes feeble, hollow, and unnatural.

Respiration is oppressed, generally slow, and the breath is generally deficient in heat.

During the progress of the symptoms, the alimentary canal is variously affected. After the first discharges by vomiting and purging, however these symptoms may be, the matter evacuated, is always watery, and in a great proportion of cases, it is colourless, inodorous, and often homogeneous.

In some cases it is turbid, resembling muddy water, or yellowish, or of a greenish hue. The discharges from the stomach, and those from the bowels do not appear to differ, except that the former are mixed with the injerta.

Neither the vomiting nor purging are symptoms of long continuance. They are either obviated by art, or the body becomes unable to perform these violent actions, and they, together with the spasms, generally disappear a considerable time before death. If blood be drawn, it is always dark, almost black, very thick, ropy, and generally of a slow, or difficult effusion.

Towards the close of the attack, jactitation comes on, with evident internal anxiety and distress:—and death takes place, often in ten or twelve, generally within eighteen or twenty-four hours, from the commencement of the attack.

During all this struggle and commotion in the body, the mind remains clear, and its functions undisturbed, almost to the last moment of existence. The patient, although sunk and overwhelmed, listless and averse to speak, and impatient of all disturbance, still retains the power of thinking, and of expressing his thoughts; as long as his organs are obedient to his will.

Such is the most ordinary course of Cholera, when its tendency to death is not checked by art. And such are the predominating symptoms, as described by Scott, Ennesly, Johnson, and others. Although the disease presents a great degree of variation, in the local epidemic visitations, and at different periods;—as when it appeared epidemically in a town or a district, in the lines of a corps, or in the camp of a marching regiment. In one visitation, it may be distinguished by the paucity of purging, or the prevalence of vomiting, or vice versa:—at another time, spasms will be predominant, and at another little of it will be observable. But a frequent variety, and the worst of all is, the apparently slight commotion in the system, as evinced by vomiting, purging, pain or spasms; while on the other hand, a mortal coldness, with arrest of the circulation, comes on from the beginning, and the patient dies, without a struggle. This, says Dr. Scott, frequently manifested itself, as the prevailing type, and was almost invariably fatal.

In the second visitation, says Dr. Orton, vomiting, purging, pain and spasms, were very frequently, in a great measure, if not entirely absent. All the powers of the system failing at once; and death commonly ensuing, in three or four hours from the attack. He adds that several instances were heard of at Hobly, and other places, of natives being struck with the disease, while walking in the open air; and having fallen down,

retched a little, complained of vertigo, deafness and blindness, and expired in a few minutes. Dr. Gordon gives many instances of this kind.

The re-appearance of fecal matter, especially if tinged with bile, seldom, perhaps never takes place, until the disease has been subdued.

Of all the symptoms of Cholera, none were so invariably present, as collapse: and none, according to Scott, so truly essential and diagnostic, as the immediate sinking of the circulation. A burning sensation in the region of the stomach, with thirst, was almost always present, and formed a prominent characteristic of the disease.

Indeed, where thirst was present in its highest degree, it appeared to subdue all other feelings; and the ignorant soldier, as well as the medical officer, who firmly believes, that cold water is almost certain death, alike eagerly seek, and swallow it.

Dr. Ennersley says of the pathognomonic symptoms, "a burning sensation between the scrobiculus cordis and umbilicus, was the most constant; nay he asserts, that he never saw an instance without it. This sensation was precisely over the spot, where the vermilion blush was invariably found, on examination after death. This blush was situated in the small intestines, and exactly resembles the colour they assume, when injected to show their villi. The same writer remarks, that strong diagnostic symptom, was the black thick, and ropy condition of the blood, taken from a vein, or even from an artery.

In regard to bile, both the Bombay and Bengal Board of Medical Officers, agree in the non-appearance of bile in the stools, or in the bowels after death.

They say, neither in Europeans, nor in natives, was any tinge of that secretion discovered in the intestinal canal.

PATHOLOGY. It will not be denied by the intelligent practitioner, that all our efforts at successful practice, in a disease of so formidable a character as Cholera, must fall infinitely short of what it ought to be, unless it is based upon correct pathological views of the disease. If the post mortem appearances, which are disclosed on dissection, are fully reconcilable in the mind of the practitioner; with the more obvious manifestations of disease, as illustrated by the symptoms:—in other words, if the ratio symptomatum, are fully comprehended; our anticipations of success in practice, may in a great measure be realized.

I think it will fully appear, from illustrations afforded by dissection,—that morbid anatomy does not differ in Cholera, in its general and essential character, from that afforded by dissection in other diseases of a highly congestive grade:—Therefore, the treatment should be conducted upon the general principles of the science; varying as the symptoms shall vary, from accidental, or occasional causes.

In this view of the subject, let me call the attention of the Society, to what follows on the subject of post mortem appearances, as to my mind, it most fully illustrates the formidable nature, and in a great degree, the essential character of the disease.

The stomach contains more or less of a watery, muddy, and sometimes, a grumous fluid; the colour varying.—sometimes colourless, greenish, or passing to a yellow tint, occasionally brown, or approaching to black.

The peritoneal coat seldom presenting any other appearance than a con-

The peritoneal coat, seldom presented any other appearance, than a congested state of its vessels. The mucous surface, was covered with a dark-coloured slimy mucus; which when removed, disclosed congestion of the venous capilleries. The congestion seemed to be seated in the sub-mucous cellular membrane, and was occasionally so extensive, as to give the appearance of ecchymosis of the coat.

The internal tunic, was occasionally corrugated, thickened, and doughy to the touch. Sometimes the stomach was flabby, and relaxed: in other cases, where some degree of reaction had taken place, the internal surface of the organ, particularly about the pylorus, presented a vermilion colour, approaching to red, and was apparently thickened, and contracted. The omentum was corrugated in some instances, & thrown to one side of the abdomen. The small intestines were occasionally contracted in parts, frequently distended with flatus, and their veins generally engorged with thick, black blood. Externally, they presented a thickened, doughy appearance; and their colour varying, from a pale vermilion, thro' all the deeper shades to a dark, purple hue; the former being chiefly remarkable on the peritoneal surface of the duodenum, and jejunum; the latter on the ilium, about where it terminates with the cecum.

In the large intestines, congestion of the veins and venous capilleries was generally evident; the external coat was generally dark coloured, owing to the blackness of the blood in the congested vessels.

The liver was darker than natural, and loaded with dark, thick blood. The gall bladder was always distended, with thick viscid bile, which was generally of a dark green, or black colour, in subjects who had died before the appearance of bile in the excretions: but where some degree of reaction had taken place, the gall bladder was generally found empty, or contained a small quantity of healthy bile.

The spleen was generally found enlarged, and engorged with black blood; and its texture frequently soft, and of uniformly darker colour than natural.

The blood, says Dr. Ennesly, particularly excited my attention, in the first case of dissection that came under my care.

In every dissection that he performed, he uniformly found the vena cava, the mesenteric veins, the veins in the vicinity of the heart, the vena portæ, the iliac and subclavian veins, and the sinuses of the brain, loaded with a thick viscid black blood. He also mentions, that he has observed this particular state of the blood in almost every case, where he had occasion to perform venesection; whether in cholera, dysentery, fever, hepatitis, or rheumatism, during the last four or five years.

Dr. Davy says that in some cases, the flaccidity of the muscular parts after death, resembled that produced by electricity, or of animals when hunted to death.

The colour of the venous and arterial blood, was the same, both being of the dark hue. The blood drawn, in cholera, never presented the buff coat.

The same writer remarks, an analysis of the air expired, from the lungs of the sick, did not contain more than one third of the carbonic acid contained in the breath of healthy people. It is also stated, that the breath is generally deficient in heat.

The foregoing sketch of the pathological condition of the system, of those who have fallen victims to cholera, is drawn from the writings of those, who have been familiar with the disease, in all its various forms; both in Asia and Europe.

We cannot therefore, be surprised, at the extraordinary mortality of a disease, that exhibits such extraordinary changes, in the condition of the circulating fluid: both as it respects its change of character, and its unequal distribution.

Drs. Barry and Russell, in their report to the Central Board of Health in England, observe, that of the two great classes of functions, performed by the organs, of which man is composed; one only is attacked in this disease. The operations of the senses, and of the intelligence, are either left untouched, or are affected, but in a secondary manner.

Those functions, on the contrary, by which existence, as a living being, is preserved; those complicated powers, by means of which, we are for ever appropriating, and converting into a part of ourselves, portions of matter around us—are all, and at once, deranged, by the attack of this terrible malady.

Nutrition is annihilated; respiration becomes difficult, irregular and inefficient; the involuntary muscles no longer perform their task; the voluntary are drawn into contractions, by other powers than the will, the blood ceases to circulate, its physical properties are altered; its serous portion is suddenly thrown out, upon the intestinal mucous surface of the body, the secretions are all arrested, and animal heat is no longer produced.

Under such rapidly destructive, and almost universal derangement of function, the most energetic efforts are to be directed to reproduce, what the disease has rendered nature unable to keep up, viz. fluidity, heat, and motion to the blood; and the regulation of the actions of the voluntary and involuntary muscles.

An important inquiry naturally suggests itself in this place, viz. is the almost universal derangement of function which manifests itself in the epidemic, the consequence of a direct application of a poisonous principle to the sentient extremities of the nerves;—and thus by its direct effects, prostrating at once the powers of the nervous system? or, are its effects, although first manifested upon the nervous system, in such degree only, as to derange the functions of the stomach, lungs, heart and brain; enfeebling their operations, and thus producing congestion in the large and deeper seated vessels, with *oppression* and, *apparent* debility?

An enlightened view of these points appears to be altogether important; as upon a correct decision will greatly depend the success of our practice.

In regard to the condition of the circulating fluid above described; that it was not consequent on death, although it might be heightened thereby; is evident, from the appearances which this fluid exhibited, when taken away from a patient, even at an early period of the disease.

Neither does it appear certain, that this state of the blood, was the first material derangement, consequent on the invasion of the malady; but, that it was one of the earliest links, in the chain of effects; consequent to the remote cause of the disease; and that it afterwards tended,

by an evident process to heighten, and perpetuate the derangement, whence itself sprang.

That the nervous system, particularly the ganglionic; with the great sympathetic nerve, received the first impression of the morbid cause, appears most conclusive; and that the peculiar condition of the circulating fluids, followed as a consequence, and in conjunction with the specific cause of the disease; overwhelming the lungs, the brain, the heart, and large blood vessels.

Hence the sudden arrest of the circulation, the overwhelming depression of the nervous system, dimness of sight, ringing in the ears, faltering of speech, and the whole assemblage of symptoms, premonitory of death.

Although the symptoms of *cholera* in the abstract, were varied in the extreme; and as appears by the testimony of different writers, were entirely wanting in some entire visitations: yet the prominent characteristic features of the *epidemic*, were always present, in an eminent degree.

Is this *pestilence* a *cholera*? I answer, *no*.

Because its essential, or pathognomonic symptoms are not the characteristics of *cholera*.

Collapse is a symptom almost invariably present in a greater or less degree in this epidemic, This has never been represented as a symptom of common *cholera*.

"A burning sensation between the scrobiculus cordis and umbilicus, was the most constant, nay, he asserts, that he never saw an instance without it." Such is the testimony of Dr. Eamesly.

Who has described this particular symptom as constituting a feature of *cholera*?

Dr. Scott says that no symptom was so truly diagnostic and essential as the immediate sinking of the circulation.

Who ever dreamt of this symptom, as a diagnostic in *cholera*?

Our patients will sink in common *cholera* if the disease be not checked, and the symptoms obviated by art:—but the sinking proceeds from a cause that is most manifest and obvious.

A sense of emptiness, sinking and exhaustion, is represented as being constantly present, and constituting one of its prominent features.

This symptom I have observed in some of the worst cases of common *cholera*, and in different degrees; but it is by no means one of its diagnostics.

A dark, thick and ropy condition of the blood has been found to be invariably present in the epidemic.

The same condition of the blood, though varied in degree, may be found in different stages of other diseases:—although it has not been noticed by medical writers as *diagnostic* in any one.

Extensive venous congestions were found to pervade both the thoracic and abdominal viscera, in all cases on dissection. Venous congestions are found occasionally in other diseases; but in no one does it uniformly take place, except in congestive typhus—to which the epidemic bears strong marks of relationship. The above symptoms are enumerated as being truly essential and pathognomonic of the great eastern epidemic.

What symptoms has the epidemic in common with *cholera*, that are always present in both? I answer, none.

Vomiting and purging are the characteristics of cholera; and symptoms that very frequently manifested themselves in the epidemic;—but they are by no means constant. They are not only absent in individual cases, but in entire visitations, as has been before stated. The worst cases, and those the most quickly fatal according to the best authorities, were untended by vomiting, purging, pain or spasms. An absence of bile in the ejections from the stomach, or in the dejections by the bowels is invariable in the epidemic. The bile appears to be accumulated in the gall bladder, from whence it seldom finds its exit, until the disease is checked. It is represented in all cases, as being thick, dark, and altered in its properties—as acrid, and even corrosive.

An absence of bile is more or less frequent in common cholera, but it is by no means uniformly so.

To what then is this epidemic likened unto? If we reject all adventitious symptoms, and confine our attention to its characteristics, or pathognomonicæ, we must conclude that it is no more, or less than *typhus congestiva epidemica*, and not *cholera epidemica*.

Let any one attentively peruse the description of congestive typhus by the late John Armstrong, and he will be forcibly struck with the strongly marked features of each, resembling the other.

The vomiting, purging and spasms, should be considered as adventitious symptoms, and therefore not entitled to give character to the epidemic:—they, together with the protean appearance of the dejections by the bowels, are the effects of vitiated bile, accumulated in the gall bladder, and to extensive venous congestion in the stomach, bowels and liver; in subjects acted upon by a powerful epidemic influence.

ETIOLOGY.—Whatever I may advance upon this dark, yet important subject, aside from facts derived from the writings of those who have been familiar with the disease, must be regarded in a great measure as speculation. Notwithstanding it may be so, if they are drawn from facts and circumstances; and based upon correct pathological principles, they are not without their use.

First, then, it is evident, that all the ordinary causes of disease, must be excluded; although where epidemic cholera prevails, the ordinary causes of disease, may operate as occasional, or exciting causes, and vary its character; as we have found in detailing the symptoms of the disease, its character has in many particulars varied in the different localities.

Sir Gilbert Blane, and many other distinguished medical men in Europe, are of opinion, that the disease depends upon a specific contagion. They attempt to prove it by tracing the course of the disease, from Bengal to Bombay, following the track of the grand army, in the commencement of the Pundaree war. Also in the detail of its progress, from India through Persia, to Syria, and Astrachan, by the line of the caravans, which they contend conveyed it to those countries in 1824 and '5. They adduce much additional testimony, corroborative of that opinion, drawn from the experience of a portion of the medical faculty, who have been familiar with the disease, during its progress in Russia, and other States of Europe. Although many facts and circumstances, which have been collected by the contagionists, are plausible; and indeed at first view,

appear imposing, they nevertheless fail, in comparison with the overwhelming mass of testimony, adduced by the non-contagionists.

The Calcutta Medical Board, who had better opportunities of ascertaining this point than Sir Gilbert Blane, gave a decided negative to the supposition of the contagious creed. And the inhabitants of Bourbon, *acting* upon the contagious doctrine, instituted a strict quarantine; but the epidemic laughed to scorn, their little hypothetical barriers, and marched into their city without ceremony.

The suddenness of its appearance, and disappearance, appear altogether irreconcilable with the laws of contagion, as far as they are at present understood.

Dr. Aliardyce, surgeon of His Br. Majesty's 31th Reg't. informs us that in this Regiment the disease appeared on the 21st Sept. and committed dreadful ravages before night. On the 25th it abated remarkably, and in three days more it entirely vanished. In like manner, the Bengal and Madras troops at Nagpore, were attacked at the end of May, 1818. On the 10th of June, the rains appeared with great violence, when the epidemic abated, and immediately afterwards ceased.

In Dr. Jameson's Bengal report, it is stated, that two millions of persons had assembled to celebrate a religious festival, on the banks of the Ganges; that the cholera broke out suddenly amongst them, while at their devotions; and in eight days, destroyed 20,000 persons.

The pestilence was stayed, as soon as the multitude was dispersed; it did not extend even to a village eight miles distant.

An intelligent writer remarks, that the causes of cholera seem to operate like a poisonous cloud; men in perfect health, arrive at a certain spot, and fall down by dozens; some never to rise again, and others to escape, barely with life, after excessive pain and torture. Cases are also related, of large bodies of men entering into such a strata of poisonous air, as at Nagpore. And in other instances, the pestilential cloud seems to have been wafted into the midst of a stationary assembly, as at the camp of the Marquis of Hastings, on the banks of the Sindée; in this instance it is said, the disease rapidly abated, after the removal of the encampment from the infected district to the high grounds at Erick.

It is said that armies in India, have fled from the track of the pestilence, and been safe out of the limits of that track.

The disease frequently made its attack in close and sultry weather; and vanished after severe thunder storms, and heavy rains. It fought its way in the very teeth of the most powerful monsoons, and left untouched, various districts that bordered on its course. It appeared, and vanished, in all the changes of the moon; and in all the states of atmospheric electricity—and at sea, as well as on the land.

“In Moscow, by far the greater part of the medical men are of opinion that the disease is not contagious, but produced by some peculiar state of the atmosphere, not cognizable, either by the senses or by instruments; that this was proved by almost every person in the city, feeling, during the time, some inconvenience or other, which wanted only the exciting cause to bring on cholera; that very few of those immediately about the patients were taken ill.

That a strict investigation had been made into what were reckoned the

first four cases that occurred in Moscow, and that it was proved that they had neither themselves been in any infected place, nor had communication with any one coming from such a place.

Dr. Albers says when the cholera first reached Moscow, all the physicians of the city were persuaded of its contagious nature; but the experience gained, in the course of the epidemic, has produced an entirely opposite conviction.

They found that it was impossible, for any length of time, completely to isolate such a city as Moscow, containing 300,000 inhabitants; and having a circumference of nearly seven leagues.

During the epidemic, it is certain that 40,000 inhabitants quitted Moscow, of whom a large number never performed quarantine; and notwithstanding this fact, *no case is on record* of cholera having been transferred from Moscow to other places. And it is equally certain that in no situation appointed for quarantine, any case of cholera has occurred. In many houses it happened, that one individual attacked by cholera, was attended indiscriminately, by all the relatives, and yet did the disease not spread to the inmates. It was finally found that not only the *nurses* continued free from the distemper, but also that they promiscuously attended the sick chamber, and visited their friends, without in the least, communicating the disease.

There are cases fully authenticated, that nurses, to quiet timid females laboring under cholera, have shared their beds, during the nights, and that they, notwithstanding, have escaped as physicians have in hospitals.

These, and numerous other examples, which, during the epidemic, became known to every inhabitant of Moscow, have confirmed the conviction of the non-infectious nature of the disease; a conviction in which their personal safety was so much interested.

Sir Wm. O'Brien has endeavored to establish the contagious character of cholera. And although the evidences adduced by him do favor the probability of the contagious character of the disease; yet they amount to any thing but demonstration of the fact of its being so. The different governments in Europe, appear to act upon the belief of the contagious principle; and as prudential measures, have adopted municipal regulations, to prevent the introduction of the disease into their respective countries; not however, because the contagious character of cholera is fully established; but inasmuch as the question admits of doubt, it is deemed prudent and wise to do so. If the cholera be, as is maintained, a disease of a strictly contagious character; can it be doubted, that all who are exposed to the operation of its contagion should be affected by it; and in that respect obey the laws of other contagious diseases.

The breaking up of such an immense assemblage, as that upon the banks of the Ganges, while cholera was making such frightful ravages among them, and their subsequent dispersion over an immense extent of country, and the fact that the disease was not communicated, even to a village eight miles distant, would of itself appear to be almost incontestible evidence, of the non-contagious character of the epidemic. Add to this its sudden appearance, and almost instant havoc of multitudes as at Nagpore, and in the camp of the Marquis of Hastings; and its equally sudden disappearance, especially after thunder storms and heavy rains, and

the numerous instances of an equally striking character, in that respect, and it must need an extraordinary tax upon our credulity, to believe that the great Indian epidemic depends for its cause, and is propagated by, a specific contagion.

It appears not an improbable supposition, that epidemic cholera, and I go farther, and say, all other epidemics, strictly speaking, may derive their cause from a common source: viz a change in the constitution of the atmosphere, or a morbid principle floating in it, the existence of which is neither cognizable to the senses, or has not as yet been detected by instruments.

Although the essential character of that principle may vary, and in that, give the varied character which is so strikingly manifest in the different epidemics.

The Cholera of India, the Sweating Sickness of England, the Typhus Petechialis, Typhus Syncopalis, and Pneumonia Typhodes of America, may all have had a common origin, being different manifestations of the same cause, operating in different portions of country, upon different constitutional subjects, under different circumstances.

Typhus Petechialis appeared in one of the most salubrious and healthy districts in New England, and attacked indiscriminately, persons of all ages, sexes, and conditions in life.

It marched into a neighborhood like a merciless banditti—it ravaged every house—it would burst with appalling fury, upon a neighborhood many miles distant, and whose inhabitants had kept strict quarantine with the infected district.

It travelled, as did the cholera in India, from post to post, attacking a second district, after having ravaged the first. The earliest cases in this epidemic, were attended with vibicis, and petechia, which gave it a character and a name; but in later cases, these appearances were in a great measure, if not altogether wanting; yet the leading characteristic features of the disease were invariably present; and the diathesis so completely predominating, as to impart its character to the diseases of the country, for a succession of years.

Typhus Petechialis, after prevailing for a series of years, was succeeded by Pneumonia Typhodes.

The lung affection in this variety of the epidemic, was the prominent, and leading symptom, in addition to the sinking of the circulation.

Pneumonia Typhodes, made its appearance in this part of the country, as the cold weather approached, and while the weather was extremely variable, and while the lungs were in a state of predisposition from extraordinary atmospheric vicissitudes. It might, a priori, have been expected that if any general cause, operating directly upon the nervous system and thereby prostrating the powers of life; if the system were overwhelmed, the lungs would be the part, where the disease would first, and mostly, manifest itself; first by its congestive effects: and if the system should be but partially relieved, inflammation would succeed.

That is, if the system should rally from the first effects of the shock, and reaction take place, we might expect that local inflammation would succeed. Such was the case in a great many instances. It was the case with the spotted fever, if the patient survived the first twenty-four hours,

or the stage of oppression; and reaction took place, the case usually terminated favorably.

But in this epidemic, there were no local predispositions; so there were no local manifestations of disease. Inflammation did occasionally supervene the stage of oppression; but it was for the most part, in cases where stimulants had been imprudently used, after reaction had taken place.

The leading features of this epidemic, as in cholera, manifested a cause that operated most powerfully upon the nervous system. Arrest of the circulation, dimness or loss of sight, ringing in the ears, delirium, faltering of speech, petechia, vibices, &c.—and death taking place, often in twenty-four, sometimes in twelve, and in some instances, in six hours from the commencement of the attack. In some instances, patients declared that they had not experienced the least pain, or uneasy sensation, from the commencement to the conclusion of the disease;—and yet, such cases bore characteristic evidence, of an intensity of disease, from which few recovered. How striking the resemblance of this type of disease, with some of the worst cases of cholera, as described by Dr. Scott and Mr. Orton; where a mortal coldness, with arrest of the circulation, comes on from the beginning, and the patient dies without a struggle.

Or a- being struck with the disease while walking in the open air: and having fallen down, retched a little, complained of vertigo, deafness, blindness, and expired in a few minutes. Cases of a like formidable character, did occur during the epidemic of 1812 & 13, where arrest of the circulation, and an overwhelming depression of the nervous system, were never recovered from, and death advanced with a steady, and unvarying step. Such cases bore evident, and strong marks of congestion of the vessels of the lungs, brain, liver, stomach and intestines; accompanied by paleness and constriction of the external surface, and coldness of the extremities.

In these cases, the blood seemed to recoil from the superficial, to the central and deeper seated vessels—the action of the heart was impeded, the function of the lungs suspended, and death supervened. The nervous power in some instances, appearing to be exhausted, almost instantaneously, like the electric fluid, from the Leyden Jar.

It may not be deemed impertinent to inquire into the probability of epidemic cholera, being dependent upon a derangement of the known constituents of the atmosphere.

It may be said in the onset, that a supposition of this kind is altogether gratuitous; until some tangible proof of the fact can be made to appear.

This will be admitted; and at the same time I would beg the indulgence of the Society, while I give the reasons that appear to render it, at least *probable*, that such a change may exist. In the first place, as before stated, an opinion has prevailed where cholera has committed its most frightful ravages, and that opinion founded upon the attentive observation of scientific men, that a poisonous cloud has overshadowed the *place*; in other instances, it appeared that a poisonous stratum of air lay in a particular direction. In some instances, the limits of the pestilential atmosphere were so well marked and defined, that armies have fled from its track, and been safe out of that track. In other instances, as before stated,

men have arrived at a certain spot in perfect health, and fallen down by dozens, some never to rise again.

Not that there was a *sensible* change in the condition of the atmosphere; for I have no account that a change had so occurred, that was *cognizable* to the senses.

In-lead, an increase of either of the irrespirable constituents of the atmosphere might take place, to a degree sufficient to depopulate the earth; and yet not be cognizable to the senses. As an evidence of which, we might recur to numerous instances, where people have unconsciously, entered wells, or caverns, that have been filled with gas, of a most deadly character.

Instances could be furnished, of those who have been rescued from their perilous situation, and who have declared that they were unconscious of any extraordinary change in the condition of the atmosphere they breathed, and knew not from whence their troubles sprung. An exposure to a small increase of either of the irrespirable constituents of the atmosphere, would, according to every principle of just reasoning, and our knowledge of facts on the subject, ultimately destroy the irritability of the nervous system, and produce a state favorable to all the phenomena, which are characteristic of diseases of congestion.

In addition to what has been advanced illustrative of the opinion, that a morbid change existed in the atmosphere of such places as were visited by cholera; it is proper to notice certain pathological phenomena, that invariably attended the disease, as evinced by dissection.

In the first place, the appearance of the blood, as it was always found on dissection, and when it was drawn, during either the early or the late stage of the disease.

It has been described by all who have been familiar with the disease, and have paid particular attention to that point, as being thick, dark, black, ropy, and even tarry. And it has been remarked by some writers, that the blood during the years in which cholera has prevailed in India, bore nearly the same character, whether taken from a patient laboring under cholera, rheumatism, hepatitis, or fever. This fact goes far in disproving the opinion entertained by some, that the peculiar color of the blood, depends upon a certain derangement of the function of the lungs, and which is peculiar to cholera.

The morbid appearances of the blood above described, are such as undecarbonized blood exhibits, in a greater or less degree, according to its surplus of carbonic acid. This is demonstrated by the appearance of the blood of drowned persons, and more particularly, by the blood of those, who have fallen victims to an imprudent exposure to the effects of nitrogen or carbonic acid. The sudden arrest of the circulation, on the first invasion of the disease, although it does occasionally take place, in concentrated attacks of other diseases, is a characteristic feature in cholera, and an occurrence most certain to take place, in a subject who had respired an atmosphere that was uncharged with either azote, or carbonic acid. An important fact, as established by modern physiologists, appears not to be without its bearing upon this point. Cigna, in the course of his experiments upon the blood, found that purple coagulum was *retained* more rapidly by oxygen, than by the air of the atmosphere; while azote,

hydrogen, and carbonic acid, gave to *scarlet crassamentum*, the purple hue of venous blood. And Brewster says, the change of colour from purple to scarlet, may be produced in the crassamentum of venous blood, out of the body, by exposure to atmospheric air, or still more by oxygen; while scarlet blood is rendered purple, by exposure to azote, hydrogen, or carbonic acid. If then, the appearances of the blood in cholera, as evinced by dissection, and as it appears when drawn during the disease, either from a vein or an artery, be compared to scarlet blood, that has been rendered purple, out of the body, by being exposed to azote or carbonic acid; and being found to correspond so nearly in appearance,—And if the morbid effects of those noxious agents, pathologically considered, so nearly describe the effects produced in cholera, on the nervous system, and the blood, it does appear that our convictions must be strong, that the atmosphere in those regions, where cholera has committed its ravages, is contaminated with a superfluous quantity of its irrespirable constituents; however it may have been acquired, and however partial it may have been in its production. The probability then, of this epidemic reaching our own country, will not depend upon municipal regulations, quarantines, or sanitary cordons.

TREATMENT.—From what has been advanced, it is evident that the treatment of this epidemic must be conducted upon general principles.

In the first stage, our indications are to evacuate the offending matters contained in the stomach and bowels; establish the healthy secretions of the liver, and its regular discharge into the bowels; prevent congestions in the large and deep-seated vessels, and obviate the sinking tendency of the disease.

In the forming stage of the disease, where the habit is not plethoric, emetics of the sulph. zinci, with pulv. ipecac, have been given; and in all cases where bile has been ejected during the operation, the best effects have resulted—reaction has been thereby established, the disturbed state of the bowels calmed, a good degree of capillary action restored to the surface, and congestions prevented. If however the habit be full, and the constitution unimpaired, bloodletting should not be neglected; after which, calomel should be given in full doses, and worked off with infusion of senna, ginger, and sulph. magnesia; in other cases, if the patient be of delicate habit, and symptoms of approaching debility are manifest, calomel 15 grs. and opium 1 gr. should be given, to be repeated in four hours—the feet to be immersed in salt and water, made hot as the patient can bear it. The feet should afterwards be covered with strong sinapisms.

Warm aromatic drinks, with small doses of camphor mixture and aqua ammonia, should be administered, both during and after the operation of emetic or cathartic medicines.

This course will generally arrest the disease in its first stage—in other cases if calomel and opium are judiciously administered, the calomel will often in a few hours exert its specific effects upon the system, and thus avert all subsequent danger from the disease. It has been remarked by all writers who have been familiar with the epidemic, that whenever a regular discharge of bile from the gall bladder into the intestines has been produced, such patients have been considered safe.

After the disease has become fully developed, one great and important object should never be lost sight of; reaction must be produced: that is,

a full and healthy circulation in the superficial vessels must be produced and kept up, or the patient will be lost.

To effect which, two different and apparently opposite systems of practice have been pursued; each resulting from the different pathological views entertained by those who have practised in the epidemic; or perhaps the same view of the morbid condition of the system has been entertained; while remedial agents possessing apparently opposite effects, may have been brought into use, to fulfil a similar indication.

A system of depletion has been pursued on the one hand, with the view of relieving the circulating system from local congestions, and the heart and arteries from a state of oppression, and apparent debility.

Bloodletting has been generally recommended in the commencement of the attack, and where the patient is of full habit, and the action of the heart and arteries is not greatly oppressed.

Its utility in such cases is too obvious to escape the notice of the most superficial observer. But bloodletting in the more aggravated forms of the epidemic, is a remedy so little indicated by the usual symptoms, that its employment in the cure of this fatal disease, to use the language of Scott, has afforded a signal triumph to the medical art.

It requires no common effort of reasoning, or reflection, to arrive at the conclusion, that when the powers of life appear depressed to the lowest degree, the pulsation of the heart all but extinct, the natural heat of the body gone, and the functions of the system suspended, and incapable of being revived by the strongest stimulants—the abstraction of blood should yet prove a remedy against a train of symptoms so desperate.

Dr. Johnson was probably the first who adopted the practice in this formidable stage of disease; and whether it was at first employed as an antispasmodic, or to obviate local inflammation, that dissections had demonstrated to exist, it was natural.

But the employment of bloodletting, without reference to either of these states, and as a remedy for collapse in this epidemic, must have been the result of reasoning and reflection, founded on the general principles of the science.

Dr. Ennesly says that the blood, on opening a vein, is at first thick, black, and comes away in drops; at length it becomes thinner, and flows with more ease, till the color changes to a bright red. This is a change which should be always looked for, and whether it takes place after the abstraction of one ounce, or thirty, is of no consequence; that change must take place before the patient can be considered safe.

When in such circumstances, a full stream of red blood can be produced, a favourable change will assuredly take place; the surface will become warm, the sense of sinking, and the burning sensation at the umbilicus and scrobiculus cordis will gradually subside; and the system become susceptible of, and respond to, other remedies.

If bloodletting has not uniformly been followed by favorable results, it will be found to have failed most frequently when practised by timid hands; where small quantities have been taken, such for instance, as we might suppose to be yielded by the remote branches of vessels; but if the evacuation be carried till its effects reach the internal vessels, and the heart itself; then the circulating system will be freed from an oppression

which impeded its functions, and it becomes equal to the task of propelling the mass of blood.

If the theory of the subject be correct, the presence of collapse, so far from deterring us from going on, should be only regarded as an additional reason for renewing our efforts for getting blood.

If this operation be performed with the moral conviction, that if successful in obtaining blood, the life of the patient will probably be saved; the operator will persevere, and call in every suitable aid, such as frictions, bathing the arms in warm water; re-opening the orifices of the vessels, administering stimulants and external warmth. He will not be induced, says Scott, to desist by any intermediate accession of debility or collapse; nor is he tempted to rest satisfied with any temporary melioration of pulse; his object goes beyond the present moment, and he feels satisfied, that if he can fully unload the internal vessels, he will save his patient: and that if he fails, he will most probably lose him.

The principle is, that collapse in the splenic, is not the consequence of the loss of blood, but is a condition which nothing but its abstraction can be trusted to for relieving it.

On opening a vein, one scruple of calomel, and two grains of opium should be given in the form of a pill, and washed down with a camphor draught; and if the calomel be rejected, it should be repeated until it remains upon the stomach. Its effects in diffusing excitement are augmented by repeated small doses of aqua ammon, camphor mixture, and external heat to the lower extremities.

Leeches applied to the umbilicus and scrobiculus cordis, will do much in relieving internal heat, and allaying the irritability of the stomach; after they have done their duty, mustard cataplasms or epistastics should be applied to the part. If spasms are severe, spirits turpentine embrocations should be freely used. Oleum cajuputa has been used internally as an antispasmodic, in doses from 10 to 30 drops, according to the urgency of the symptoms.

In case where the bowels are constantly discharging a watery fluid, small anodyne enemata with camphor should be given, and calomel repeated until its effects are manifested upon the system.

Another class of the profession, and perhaps by far the greatest proportion, have regarded this epidemic as a disease of debility; all the phenomena of the worst stages of which, are produced by causes independent of, and existing prior to, congestions in vessels of parts essential to life. Hence the dread of the lancet, and other depletives; and a resort to an unnumbered catalogue of stimulants and tonics, to arouse the exhausted excitability of the nervous system; and stimulate to action the heart and arteries, already engorged and oppressed with blood, that has become unfitted for the purposes of life, and the presence of which in its present state, will almost inevitably insure the death of the patient.

To go into a detail of the numberless prescriptions, or follow the multitude of routine prescribers, would be incompatible with the duty I have assigned myself on this occasion. Neither do I expect to point out with unerring certainty, the road to successful practice in so formidable an epidemic.

But if what I have advanced shall enable us the better to recognize, and distinguish the disease, as well as illustrate its pathological character, I shall feel a degree of gratification in having performed an acceptable service.

The practice of prescribing to the name of a formidable disease, is ever fraught with imminent danger; and always rests in a greater or less degree upon principles purely empirical; and proves itself a barrier to successful investigation in diseases. That physician, on the contrary, whose profound knowledge of his profession, will enable him to investigate at the bed side of his patient, the true character of the disease, and form correct opinions of the morbid condition of parts situated beyond the reach of the eye, will hardly fail in anticipating a remedy to fulfil his indication. Such a physician will hardly need the formulæ of one who has practised three thousand miles distant from him; and upon subjects, laboring under different predispositions, and situated in localities totally dissimilar.

If he can arrive at settled principles in regard to the disease, his path is plain; and if he fails of this, he may be compared to the mariner at sea, without rudder, chart or compass.

SUMMARY.

Bloodletting, to unload the congested vessels, and relieve the heart from oppression.

Emetics, for the treble purpose of cleansing the stomach, promoting a discharge of bile, and diffusing excitement.

Calomel and opium, to allay gastric irritability, aid in diffusing excitement, and remove offending matters from the bowels.

Ether and tinc. opium, black-drop, oleum cypripita, asafoetida, rubifacients, and the application of dry heat, as antispasmodics. Although calomel, when it produces a healthy discharge of bile, will prove the surest remedy against spasms.

Camphor mixture, aqua ammonia, inf. cascarilla, aromatic teas, and sometimes wine may be used in emergencies, and for a temporary purpose.

Alkaline draughts, with small doses of tinc. opium, to correct acidity, and assist in allaying gastric irritability.

Calomel, senna, soluble tartar, and jalap, as cathartics.

Stimulating cataplasms to the feet, and sometimes epistastics or stimulating poultices to the epigastrium.

Address on the Use of Cold Applications in local Inflammation, delivered at the Annual Meeting, August, 1831, By Dr. C. WALDO, of Mentz.

GENTLEMEN OF THE SOCIETY:—By your mandate I now appear before you. Permit me to assure you, no feeling but that of a deep sense of duty, in being obedient to the requisitions of this society, could induce me to address you at this time.

I well know that what I am about to say is properly a subject for the analysis of science; but may I not flatter myself that if you should find in it heterogeneous principles, you will still with a friendly and indulgent kindness mitigate the severity of criticism, and the more so as your com-

mands are extended to me at a time when I am laboring under the effects of the severest domestic affliction.

GENTLEMEN—The subject of this address is the *practice* proper to be adopted in wounds of large joints; and the propriety of applying cold during their subsequent inflammations, which I shall endeavor to illustrate.

By a wound of large joints, I mean an opening through the capsular ligament into the joint. This may be by *puncture, contusion, laceration or incision*. These wounds are more or less important, not only according to their extent, but according to the importance and magnitude of the joint injured. Wounds of the knee oftener occur than of any other large joints, and on that account as well as from the importance of that joint, together with its extreme liability to inflammation, are of the highest importance to the patient, as also to the medical attendant.

Wounds of the joints divide the common integuments like wounds in other parts, and are on this account, in common with them, liable to inflammation; and in common with all medical and surgical business involve the practitioner in serious and weighty responsibility. But when we consider the fact, that here are other parts injured, and parts too, subject to an inflammation of an infinitely more obstinate and destructive character, frequently producing the destruction of joints and limbs, and even of life itself; we are irresistably driven to reflect upon the increased importance of these, over all other wounds, and the fearful responsibility resting upon every practitioner to whom such cases are committed.

Although some difference of practice is necessary to meet the exigencies of the different kinds of wounds, yet the difference is not great, therefore I propose to take one kind—the *incised*, and of an important joint—say the knee.

Here the indication is simply that of uniting the wound by the first intention; or to give nature an opportunity to heal it, by preventing the accession of inflammation. Every thing should be done to promote, and every thing strictly forbidden which would have a tendency to thwart this intention.

Therefore, all extraneous substances, and even blood itself should be carefully removed. Large vessels, if cut, should be secured by ligature, but stitches are perfectly inadmissible.

The patient should be ordered to bed—the limb placed straight (but if an elbow, it should be placed crooked)—the lips of the wound should be secured accurately and firmly together with strips of adhesive plaster. Superincumbent to these, should be placed along the line of the wound armed pledgets of lint. The limb should be made easy—all motion of the joint strictly forbidden.

A long splint should be secured on the limb, simply to prevent flexion of the joint. At all events, it is the business of the surgeon to see in this case, (and it is at the expense of his reputation if he do not,) that the limb be so secured, as to prevent flexion or motion of the joint; for if that takes place, (after a short time,) there is no cure by the first intention.

Lotions of vinegar and cold water with sacch. sat should be ordered. The patient bled, and the antiphlogistic regimen strictly enjoined. The patient

should be made sensible of the danger, in case the directions are not observed—he should be told that it is ‘much easier to prevent than to cure inflammation in such cases,’ and further, that if by any imprudence or misfortune, inflammation should commence, the most favourable termination which could be looked for, is that of a stiff joint, and that the limb and even his life would be in imminent danger.

But suppose you fail to secure punctilious observance of your directions, or that by any other means inflammation should commence; you are called to attend—you find your patient with great swelling, high heat, excessive pain, exquisite soreness; in short you have a case of phlegmonic inflammation, superadded to that of the tendons, capsular ligament, cartilage, and synovial membrane. By neglecting to use splints, the leg is flexed to an angle of forty-five degrees, and now immovable. Add to all these, the appalling fact, that an extensive abscess has already formed and discharges unhealthy pus. You look around you to find some powerful means by which you may suddenly subdue so formidable an enemy; you look in vain—you are finally compelled to meet him, and assume the fearful responsibility of the issue, with no other, than the common means of warfare. You make even more than a doubtful prognosis, but yet you are doomed to risk the event upon ordinary means.

You now fully realize that it is easier to prevent, than to cure such an inflammation.

But all that you can now do, is to put in requisition the antiphlogistic regimen, among the different remedies of which, none of a local nature, is more powerful in my humble estimation, than the application of cold, or in other words the application of substances of lower temperature than the part inflamed; thereby causing an absorption of heat and consequent lowering the temperature of the inflamed part. Whatever theory of inflammation, or of the production of heat in inflammation, may be adopted, all will agree in one fact, viz: that heat is always accumulated in greater quantity than natural, in phlegmonic inflammation.

The degree of temperature is, I consider, in proportion, to the violence of action, and in proportion to the temperature and action, is the tendency to resolution, suppuration or mortification.

The heat of a part in inflammation is allowed to rise to 106 or 7 degrees. Cooper says it is an acknowledged and well known fact, that the action of the arteries, as well as every other operation in the animal economy is promoted and increased by the influence of heat. To which I add, is it not an equally acknowledged fact, that in proportion as you abstract heat you diminish action, even to the destruction of vitality?

Hence the obvious indication arises, viz: to reduce the temperature of the inflamed part by the application of topical cold, and in particular by continually abstracting the heat from the part, by keeping up a constant evaporation from its surface. The application may be cold water, and that by immersion, affusion, or by cloths dipped in water. Cold water is in my opinion cold enough to be beneficial for the highest grade of inflammation: but still no evil would result from the application of snow or ice to highly heated parts, provided it be not continued too long.

It is an invariable rule with me, of twenty years’ standing, to graduate the degree of cold of the application, to the degree of heat of the part to

which it is applied; taking cold water for the highest grade. I pursue this rule until the application and the inflamed part come together, a little above the healthy standard, or usually about 100 degrees, without any reference to the termination: whether it be by resolution, suppuration, or mortification. This practice of continuing cold applications until the temperature of the part is reduced, as near to its natural state as the production of healthy pus will admit, and not changing to warm fomentations whenever it is decided suppuration must take place, is, I am aware, in seeming contradiction with high authority. Let us examine it—the direction to change to warm, implies what we otherwise know to be usually the fact, that cold applications had been used, the consequence of which is a reduction of temperature from the high degree usual in active inflammation.

It is in this reduced state of temperature, which is from 102 to 101 degrees that we are directed to change from cold to warm fomentations. And how warm are these *warm* fomentations to be? About blood warm. By this we understand that the surgeon judges of warmth in this case by his own healthy feeling or temperature of 98 degrees.

A fomentation then of 98 degrees is the one directed as a warm one, and this to be applied to a part, the temperature of which is at 103 or 4 degrees. This supposed warm fomentation then is of several degrees lower temperature than that of the part to which it is applied, thus showing it to be in reality, a cold application.

And further, we can readily understand that it will continue to be a cold application under the illusive name of a warm one, until by evaporation or other process, the inflamed part shall be reduced to the degree of the fomentation, or in other words till they meet at 98 degrees.

Thus we see the mistake. The warm application is misnamed. It should be called what it really is, a *cold* one.

We shall by a further view of the subject discover another mistake. The fact that cold applications had been always directed, and almost universally used, so as almost uniformly to produce the temperature wherein pus would form, and in which it was proper to use this supposed warm application, and this being the case so generally presented—the rule of practice formed from this general appearance, was, by a little inadvertance made too general—in fact it was made universal. There are no exceptions. You must always change the cold for this, to the healthy feeling, lukewarm fomentation, when the formation of pus is inevitable.

But who is there that will not, upon a little reflection recall to mind cases, wherein such change would be, not only weak, but dangerous practice.

Suppose the following, of which I have seen numbers. A patient has an inflammation of the ankle joint, extending through the cellular membrane, tendons, ligaments, synovial membrane, periosteum, and perhaps into the bone itself. The swelling great—pain and soreness so exquisite that not the least motion can be allowed—heat so high that blisters have risen, in different places, notwithstanding suppuration has already taken place.

In this case who would be willing to rest with a warm fomentation, or one of 98 degrees, thereby making little or no impression upon the disease.

Who cannot see, that here the indication is, notwithstanding the suppuration, to reduce the temperature of the part as quickly as possible, as the only mean of saving the joint from destruction. And who will discredit his own intellect, by saying, this indication would be answered as readily, and to as great an extent by a fomentation of 98, as by one of 60 degrees. Cases are not unfrequent in which the experienced observer recognizes the inevitable certainty of suppuration, unless the high excitement exhausts the vitality of the part, producing gangrene and mortification.

Is it proper to change to warm applications in this case?

It is an established theory, that it is the high inflammatory action which exhausts the sensorial power, producing death or mortification of the part. Does it not follow then, that if you reduce the high action, you lessen the danger of mortification?

It is admitted that caloric is a violent excitant. In proportion then as you abstract caloric, you lessen the action, and in consequence, the danger of mortification—and render the suppuration less profuse. That application then, is the best that will absorb the most heat in a given time. The question then of changing to warm applications, resolves itself into this—Which will abstract the greatest quantity of caloric, a cold or warm application, viz: one of 98 or one of 60 degrees? In this form the question cannot be answered wrong.

A. I will agree that it is a cold one, or one of 60 degrees; and therefore it should not be changed for a warm one.

And yet we are told by authors, that if pus be about to form, we must use a warm application. We see the error of making a general rule, an universal one, as authors have done on this subject. Since writing the above, I have for the first time found this doctrine in print.

I am happy to say that professor Assalini, an eminent surgeon of Italy, advances the same doctrine, and adopts the same practice. Authority of such eminence will surely shield me from the imputation of temerity and give the subject an influence, which it could not otherwise command. Put I have said, that cold applications properly graduated, are proper in *all* cases of inflammation, until the part is reduced to about natural heat.

But authors say, there are cases in which from some mysterious and unknown cause, cold applications produce pain, and cannot be used, and they advise the use of warm applications, which are said to give ease.

Cooper says "there are constitutions and parts which derive most benefit from the local employment of warm emollient remedies; but admits that the generality of cases derive most benefit from cold ones. Again he says "if we may judge by the feelings of certain patients, there are undoubtedly particular constitutions, in which the local use of warm remedies produces greater relief, than the application of cold." But on the same page he says, "the absurdity of attempting to reconcile every useful practice with a philosophical theory is, in no instance, more strikingly exemplified than in the opposite sorts of local applications which are of service in inflammation—and adds, "were I to endeavor to define the particular instances, in which warm applications avail most, I should take upon me a task which has baffled all the most able surgical writers."

This frank avowal, that the application of warmth, in these cases, cannot be reconciled with any philosophy extant, together with the fact that

those who apply warmth, apply it, in entirely dissimilar cases, and are continually contradicting each other as to the cases in which it should be used, is in my opinion a sufficient justification for any one to distrust such practice. I should always suspect an error somewhere, when so simple a fact could not be explained, not even by the ablest of men, nor by any philosophical theory whatever.

When facts cannot be reconciled to a theory, either the theory is wrong, or the supposed facts do not exist.

The theory of the application of cold substances to parts heated into disease, seems founded in sound philosophy, and stands thus: excess of heat produces disease, therefore to lessen the heat will lessen the disease; and as two bodies of unequal temperature, when brought in contact, become equal, the warm one imparting its heat to the cold one; therefore cold to the heated or inflamed part will lessen the heat and in consequence the disease.

This theory is supported by facts. The error then is not in the theory.

Let us see whether the supposed fact exists. The fact stated is, that warm applications are sometimes more beneficial to highly heated parts, or in active inflammation, than cold ones.

The fact, we say, does not exist. Not but such an application as has been called a warm one, may be very comforting and useful to an inflamed part, but that such an application is a warm one, we deny.

The temperature of the inflamed part, as was before shown, is raised to 103 or 4 degrees; whereas this supposed warm application, is so named from its feeling warm to us in a state of health, in which the temperature is at 98. This warm application, then, is about 98 degrees, which makes it colder than the part, to which it is applied. This unmasks the mistake, which is the taking of a cold for a warm application.

From this view then, why should cold give pain? Because, too great a degree of it is applied. And this may be either at the commencement, or after applying it sometime; the inflamed part may have parted with its caloric, so that the application may have become too cold.

Too great a degree of cold operates to produce pain, and this may be either the pain of *torpor*, or the pain of excess of action; or perhaps of both. The pain from torpor is produced by too great a degree of cold applied, occasioning too great an abstraction of heat, thereby causing lessened action, to the degree, that the pain which is that of torpor, becomes severe.

The part rendered torpid may be the surface, or some deep-seated membrane, adjacent to the seat of the disease.

The pain from excess of action is produced in this manner. When a very great degree of cold is used, as snow or ice, the surface with which it is in contact, parts rapidly with its heat, and if this application be continued long enough; very great torpor of the surface is produced. There is almost an entire cessation of action, or in other words, there is a state of collapse of the cutaneous capillaries, cellular membrane, and in proportion, as the heat is abstracted.

The collapsed integuments are a bad conductor of heat, which continues to be accumulated, in the inflamed parts, and if this non-conductor be

continued any considerable time, the heat accumulates underneath, producing pain from increased action.

The manner in which these pains are removed affords good evidence of the truth of this theory, for the misnamed "*warm*" fomentations relieve all of them; or in other words, cold of a *less* degree, allows the parts to regain their action; the integuments are thus converted into a good conductor. The accumulated heat escapes, and all from an application of lower temperature than the part called by authors, a warm; but which is in fact a cold one, thereby affording incontestible proof, that it was not merely cold, but too great a degree of it, which rendered it painful and gave rise to the strange and unphilosophic notion, that there are constitutions in which active inflammations will not bear to be treated with cold applications.

Gentlemen—I have briefly sketched the practice proper in recent incised wounds. I have passed on to consider the inflammation which will sometimes ensue, and have endeavored to illustrate the propriety of following the natural indication in such cases, viz: to reduce the temperature—I have passed to consider the exceptions made by authors, to the prosecution of this indication to the final reduction of temperature to about the healthy standard.

These exceptions are two: first, when pus is about to form, warm applications are directed. I have endeavored to show a mistake in this exception, and that it has no foundation in philosophy.

The second exception arising from the strange vagary that there are constitutions, which, when heated too much, cannot bear to be cooled, I have endeavored to show, exists only in the imagination, and depended solely on a fallacy of terms.

If I have succeeded even partially, the philosophy of curing inflammations by graduated cold applications, will claim your candid investigation, and if found defensible, your approbation.

Gentlemen—If in this feeble effort, I have given hints which shall excite the attention to *rules of practice*, by which the sufferings of one human being may be mitigated—if this should be the mean of preventing one stiff joint, or the amputation of one limb, or of preventing one crooked leg, the satisfaction will be a rich compensation for such an humble effort.

ART. IV. *Address on the Use of Opium in Bowel Affections, &c. delivered Nov. 2, 1826, by Dr. C. KING, of Ledyard.*

GENTLEMEN—Improvement in the profession of Medicine, advances in a direct ratio with other sciences. Physicians are better educated than they formerly were, and much more instructed in their profession, before they are licensed to practice. The introduction of chemistry, as a necessary branch of the student's education, habituates him to a philosophical mode of thinking, and teaches him the maxim of Lavoisier, that "no philosophy ought to be received as true, till it is demonstrated by actual experiment." Instead of reasoning from supposed data, they now draw conclusions from the result of dissection, and the absolute effects of medicine on the living body.

They are then furnished with a text, from which they can give the public a true history, and a successful mode of practice in particular diseases, which hitherto have mocked the best efforts of the healing art. The fruit of these labors is circulated through the country, in our periodical publications.

With these reflections before me, I have selected, some of the diseases of the bowels for our present entertainment.

Cholic, is a disease, so common, and yet so frequently cured by means which are in the possession of every family, that perhaps some may say, it will be time lost, to dissertate, on so familiar a subject. But it exists in every degree, from a slight griping, to intussusception, and that ardent inflammation, which terminates in gangrene. Whether it is called flatulent, bilious, or Devonshire; its essential characteristics, are the same. Cholic may be divided into three stages. 1st, Spasmodic. 2nd, Inflammation of the intestines, accompanied with more or less spasm. 3d, Gangrene. In the progress of this disease, it quickly slides from one stage to the other. Systematic writers impute the remote cause of cholic, to exposure to cold, raw and acesant food, and constipation. They dwell on costiveness, the removal of which constitutes the leading feature of their *Methodus Medendi*. The proximate cause, they denominate spasm. If it is not radically cured in the first stage, it seldom admits of cure at all. Inflammation supervenes, puking becomes obstinate—the abdomen swells—pain in the part affected more constant, with the spasmodic stage lapping on to the inflammatory. The agitation and compression of the intestines in the act of puking, produces the most excruciating pain in the inflamed part, with a permanent increase of sensibility. One degree of sensation begetting another, till the sensorial power of sensation is exhausted, when gangrene ensues, and the patient only finds relief in the arms of death. We have all seen cases of Cholic go on in this way, while we were pouring down oil, and other cathartics, with no other effect, than to increase the difficulty. For when a cathartic has passed the pylorus, and reached the inflamed intestine, it produces so great an excitement on a part already too sensible, that the intestines re-act on that stimulus, invert the vermicular motion above the inflamed portion, and bring on puking with all the train of evils which agitation and compression of the inflamed intestines, can produce.

In almost thirty years' practice of medicine, I never saw a case of cholic, in which I could trace constipation of the bowels to be the exciting or proximate cause. With me then, there is no reason why cathartics should cure cholic, on any other principle than that of depletion. The difficulties which accrue from the exhibition of cathartics in this complaint, are often insurmountable, and fatal to the patient. These considerations, have induced me to abandon the use of cathartics in cholic, and to rest on this conclusion—that the 1st stage is the time for physicians to act. In this stage the indications of cure are, to remove the spasm and morbid sensibility from the intestines. To answer these indications, the warm bath, semicupium, fomentations of the abdomen, and injections, are useful, and ought not to be omitted. But when the attack is severe, the spasm vehement, and the sensibility great, relief is only to be obtained on general principles. These are bloodletting and opium. What? (says an

objector,) give opium in a case where all our best writers recommend cathartics? Yes, bloodletting and opium, are the greatest antispasmodics we are possessed of. Bleed as copiously as you would in pleurisy, and then give opium in as large doses as you would in epilepsy, and repeat the exhibition once an hour, till the patient becomes entirely free from pain, and falls asleep. If you stop the use of opium at this point, you will never find in the event that you have given too much. For just as much opium as is necessary to overcome the spasm and sensibility of the intestines, in the event, will be no more than an ordinary dose in ordinary circumstances. When the patient, by liberal bleeding and large and repeated doses of opium, has become entirely free from pain, the choleric is cured.

This has been my practice for twelve years, and I have not had occasion in that time to make a third visit to any one patient in case of choleric.

I observed above, that the first stage in this complaint was the time for physicians to act. It is in this stage, that this mode of practice has been adopted, and with me it has been invariably successful. But when the disease has run into the second stage, accompanied with spasm and all the morbid sensibility of the first, it is questionable, whether we can then be of any essential use to our patients. If so, we cannot be too strongly impressed with the importance of curing the disease, while it is in the spasmodic stage, an importance no less than the life of the patient. This is our time to work, and in pursuing the above prescribed plan, I think we should seldom, if ever, fail of an absolute cure.

In this view of our subject, you will perceive that I am dictated much by the morbid sensibility in the part affected,—A circumstance which is overlooked by our systematic writers. I am ready to acknowledge that this morbid sensibility of the intestines in most cases is the effect of a previous diseased action, and depends on that diseased action for its cause as much as Trismus does, on a wounded tendon. But when this morbid sensibility has taken place, we can do but very little better in attempting to cure the primary affection, without destroying the morbid sensibility, than we should, by endeavoring to cure lock-jaw, by applying an emollient poultice to the wounded tendon. Benjamin Bell, tells us, that after depletion with the lancet, Opium in large doses, is a proper remedy in inflammation, not only in giving relief from pain, but by the indirect debility which follows. In cases like those above described, we need its effect. We need it to stop puking. We need it to ease the intolerable pain in the part affected.

On Saturday, the 11th ult. I was called in the evening to a young woman, who was attacked in the afternoon, with Enteritis. She had been in poor health, for a year or more. With the particulars I am not acquainted. The summer preceding she had fever and ague—had the fits broken, and returned to her friends in Ledyard, and then had a run of ague again for two or three weeks. She recovered so far as to begin to ride, and then had this attack of enteritis. I found her with the abdomen extremely sensible to slight pressure, swollen and very tense. Pain acute, with periodical exacerbations of spasm in the intestines, which would end in a sunken, distressed sickness at stomach, and puking, Pulse small. Under these forbidding circumstances, I took a pound of blood; which, on standing half an hour, put on as much proof of inflammation as usually

appears in pleurisy. Ordered an injection, and dissolved eight or ten grains of opium, in a solution of sal absinth, and directed her to take one grain of opium, once an hour, till she became entirely easy. Called on Sunday morning, and learned that the puking soon subsided, though she took all the opium, before the pain ceased in the bowels. I applied an epispastic, and commenced giving a cathartic. Called again at evening—the cathartic had operated, and she was much better. Directed to continue the exhibition of the cathartic medicine at longer intervals. Called again on Monday morning, and found her free from disease.

SUMMARY.

First, liberal bleeding. Secondly, give opium in doses proportioned to the violence of the pain, once an hour, till the patient is entirely easy. It will not do to stop when your patient is barely growing easy. But keep this determination in view, that nothing must divert the exhibition of opium, till the patient arrives at perfect ease.

Thirdly, then blister, and as soon as the stomach recovers from the nauseating effect of the opium, give cathartics, and the patient is cured, and your work done.

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